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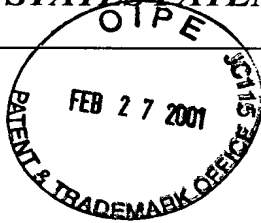
**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of: Pei et al.

Application No.: 09/619,847

Filed: July 20, 2000

Title: ELECTROACTIVE POLYMERS



Atty Docket No.: SRI1P026/US-4152-2

Examiner: Not Assigned

Group: 2743

PATENT

#5/IDS

3-6-01

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**CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail to: Assistant Commissioner for Patents, Washington, DC 20231 on February 22, 2001.

Signed: 

Joyce L. Ferreira

**INFORMATION DISCLOSURE STATEMENT**

**UNDER 37 CFR §§1.56 AND 1.97(c)**

Commissioner for Patents  
Washington, DC 20231

Dear Sir:

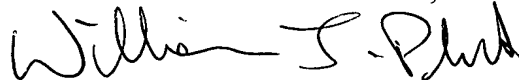
The references listed in the attached PTO Form 1449, copies of which are attached, may be material to examination of the above-identified patent application. Applicants submit these references in compliance with their duty of disclosure pursuant to 37 CFR §§1.56 and 1.97. The Examiner is requested to make these references of official record in this application.

This Information Disclosure Statement is not to be construed as a representation that a search has been made, that additional information material to the examination of this application does not exist, or that these references indeed constitute prior art.

This Information Disclosure Statement is believed to be filed before the mailing date of a first Office Action on the merits. Accordingly, it is believed that no fees are due in connection with the filing of this Information Disclosure Statement. However, if it is determined that any fees are due, the Commissioner is hereby authorized to charge such fees to Deposit Account 500388 (Order No. SRI1P026).

Respectfully submitted,

BEYER WEAVER & THOMAS, LLP



William J. Plut

Limited Recognition under 37 C.F.R. §10.9(b)

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Form 1449 (Modified) FEB 27 2001

Atty Docket No. SRI1P026/US-4152-2 Application No.: 09/619,847

Applicant: Pei *et al.*

Filing Date: July 20, 2000

Group 43

Information Disclosure Statement By Applicant

(Use Several Sheets if Necessary)

U.S. Patent Documents

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Examiner Initial	No.	Patent No.	Date	Patentee	Class	Sub class	Filing date
	A1	5,902,836	05/11/99	Bennet <i>et al.</i>			08/23/95
	A2	5,229,979	07/20/93	Scheinbeim <i>et al.</i>			12/13/91
	A3	5,642,015	06/24/97	Whitehead <i>et al.</i>			05/01/95
	A4	5,835,453	11/10/98	Wynne <i>et al.</i>			05/05/97

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Examiner Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
	A5	Aramaki, S., S. Kaneko, K. Arai, Y. Takahashi, H. Adachi, and K. Yanagisawa. 1995. "Tube Type Micro Manipulator Using Shape Memory Alloy (SMA)," <i>Proceedings of the IEEE Sixth International Symposium on Micro Machine and Human Science</i> , Nagoya, Japan, pp. 115-120.
	A6	Bharti, V., Y. Ye, T.-B. Xu and Q. M. Zhang, "Correlation Between Large Electrostrictive Strain and Relaxor Behavior with Structural Changes Induced in P(VDF-TrFE) Copolymer by electron Irradiation," <i>Mat. Res. Soc. Symp. Proc.</i> Vol 541, pp. 653-659 (1999).
	A7	Bobbio, S., M Kellam, B. Dudley, S. Goodwin Johansson, S. Jones, J. Jacobson, F. Tranjan, and T. DuBois, "Integrated Force Arrays," in <i>Proc. IEEE Micro ElectroMechanical Systems Workshop</i> , Fort Lauderdale, Florida February 1993.
	A8	Caldwell, D., G. Medrano-Cerda, and M. Goodwin, "Characteristics and Adaptive Control of Pneumatic Muscle Actuators for a Robotic Elbow," <i>Proc. IEEE Int. Conference on Robotics and Automation</i> , San Diego, California (8-13 May 1994).
	A9	Calvert, P. and Z. Liu, "Electrically stimulated bilayer hydrogels as muscles," <i>Proceedings of the SPIE International Symposium on Smart Structures and Materials: Electro-Active Polymer Actuators and Devices</i> , March 1-2, 1999, Newport Beach, California, USA, pp. 236-241.
	A10	Cheng, Z.-Y., H. S. Xu, J. Su, Q. M. Zhjang, P.-C. Wang, and A. G. MacDiarmid, "High performance of all-polymer electrostrictive systems," <i>Proceedings of the SPIE International Symposium on Smart Structures and Materials: Electro-Active Polymer Actuators and Devices</i> , March 1-2, 1999, Newport Beach, California, USA., pp. 140-148.
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	A12	Egawa, S. and T. Higuchi, "Multi-Layered Electrostatic Film Actuator," <i>Proc. IEEE Micro Electra Mechanical Systems</i> , Napa Valley, California, pp. 166-171 (February 11-14, 1990).
	A13	Full, R. J. and K. Meijer, "Artificial Muscles Versus Natural Actuators From Frogs To Flies," <i>Proceedings of the 7th SPIE Symposium on Smart Structures and Materials-Electroactive Polymers and Devices (EAPAD) Conference</i> , March 6-8, 2000, Newport Beach, California, USA, pp. 2-9.
Examiner		Date Considered

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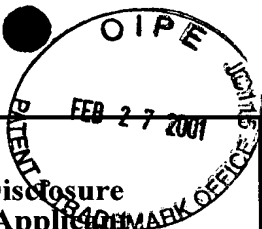
<b>Form 1449 (Modified)</b>  <b>Information Disclosure Statement By Applicant</b>  (Use Several Sheets if Necessary)	Patent Office FEB 27 2001 OIPE	Attorney Docket No. SRI1P026/US-4152-2 Applicant: Pei <i>et al.</i> Filing Date July 20, 2000	Application No. 09/619,847 Group 2743
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	B2	Gilbertson, R.G., and J.D. Busch. 1994. "Survey of Micro-Actuator Technologies for Future Spacecraft Missions," presented at the conference entitled "Practical Robotic Interstellar Flight: Are We Ready?" New York University and The United Nations, New York. (August 29 and September 1, 1994 ); also published on the World Wide Web at <a href="http://nonothinc.com/nanosci/microtech/mems/ten-actuators/gilbertson.html">http://nonothinc.com/nanosci/microtech/mems/ten-actuators/gilbertson.html</a> .
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	B4	Hirose, S., Biologically Inspired Robots: Snake-like Locomotors and Manipulators, "Development of the ACM as a Manipulator", Oxford University Press, New York, 1993, pp.170-172.
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	B6	Hunter, I.W., and S. Lafontaine, "A Comparison of Muscle with Artificial Actuators", <i>Technical Digest of the IEEE Solid-state Sensor and Actuator Workshop</i> , Hilton Head, South Carolina, June 22-25, 1992, pp.178-185.
	B7	Kawamura, S., K. Minani, and M. Esashi, "Fundamental Research of Distributed Electrostatic Micro Actuator," Technical Digest of the 11th Sensor Symposium, pp. 27-30(1992).
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	B10	Liu, Y., T. Zeng, Y.X. Wang, H. Yu, and R. Claus, "Self-Assembled Flexible Electrodes on Electroactive Polymer Actuators," Proceedings of the SPIE International Symposium on Smart Structures and Materials: Electro-Active Polymer Actuators and Devices, March 1-2, 1999, Newport Beach, California, USA., pp. 284-288.
	B11	Olsson, A., O. Larsson, J. Holm, L. Lundbladh, O. Ohinan, and G. Stemme. 1997. "Valve-less Diffuser Micropumps Fabricated using Thermoplastic Replication," <i>Proc. IEEE Micro Electro Mechanical Systems</i> , Nagoya, Japan, pp. 305-310 (January 26-30, 1997).
Examiner		Date Considered

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<b>Form 1449 (Modified)</b>  <b>Information Disclosure Statement By Applicant</b>  (Use Several Sheets if Necessary)	Atty Docket No. SRI1P026/US-4152-2	Application No.: 09/619,847
	Applicant: Pei et al. Filing Date July 20, 2000	Group 2743



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	C2	Otero, T.F., J. Rodriguez, and C. Santamaria, "Smart Muscle Under Electrochemical Control of Molecular Movement in Polypyrrole Films," <i>Materials Research Society Symposium Proceedings</i> , Vol. 330, pp. 333-338, 1994
	C3	Su, J., Z. Ounaies, J. S. Harrison, Y. Bara-Cohen and S. Leary, "Electromechanically Active Polymer Blends for Actuation," Proceedings of the 7th SPIE Symposium on Smart Structures and Materials-Electroactive Polymers and Devices (EAPAD) Conference, March 6-8, 2000, Newport Beach, California, USA, pp. 65-72.
	C4	Wax, S. G. and R. R. Sands, "Electroactive Polymer Actuators and Devices," Proceedings of the SPIE International Symposium on Smart Structures and Materials: Electro-Active Polymer Actuators and Devices, March 1-2, 1999, Newport Beach, California, USA., pp. 2-10.
	C5	Winters, J, "Muscle as an Actuator for Intelligent Robots," Robotics Research: Trans. Robotics International of SME, Scottsdale, AZ (August 18-21, 1986).
	C6	Zhang, Q. M., V. Bharti, Z.-Y. Cheng, T.-B. Xu, S. Wang, T. S. Ramotowski, F. Tito, and R. Ting, "Electromechanical Behavior of Electroactive P(VDF-TrFE) Copolymers," Proceedings of the SPIE International Symposium on Smart Structures and Materials: Electro-Active Polymer Actuators and Devices, March 1-2, 1999, Newport Beach, California, USA., pp. 134-139.
	C7	Zhang, Q. M., Z.-Y. Cheng, V. Bharti, T.-B. Xu, H. Xu, T. Mai, and S. J. Gross, "Piezoelectric And Electrostrictive Polymeric Actuator Materials," Proceedings of the 7th SPIE Symposium on Smart Structures and Materials-Electroactive Polymers and Devices (EAPAD) Conference, March 6-8, 2000, Newport Beach, California, USA, pp. 34-50.
	C8	Kornbluh, R., G. Andeen, and J. Eckerle, "Artificial Muscle: The Next Generation of Robotic Actuators," presented at the Fourth World Conference on Robotics Research, SME Paper M591-331, Pittsburgh, PA, September 17-19, 1991,
Examiner		Date Considered

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Form 1449 (Modified)

**Information Disclosure  
Statement By Applicant**

(Use Several Sheets if Necessary)

Attorney Docket No.  
SRI1P026/US-4152-2

Applicant:

Pei *et al.*

Filing Date  
July 20, 2000

Application No.:

09/619,843

Group  
2743

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Examiner Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
	D1	Kornbluh, R., R. Pelrine, J. Joseph, "Elastomeric Dielectric Artificial Muscle Actuators for Small Robots," <i>Proceedings of the Third IASTED International Conference on Robotics and Manufacturing</i> , June 14-16, 1995, Cancun, Mexico.
	D2	Kornbluh, R., R. Pelrine, Jose Joseph, Richard Heydt, Qibing Pei, Seiki Chiba, 1999. "High-Field Electrostriction Of Elastomeric Polymer Dielectrics For Actuation", <i>Proceedings of the SPIE International Symposium on Smart Structures and Materials: Electro-Active Polymer Actuators and Devices</i> , March 1-2, 1999, Newport Beach, California, USA. pp. 149-161.
	D3	Kornbluh, R., R. Pelrine, Q. Pei, S. Oh, and J. Joseph, 2000. "Ultrahigh Strain Response of Field-Actuated Elastomeric Polymers," <i>Proceedings of the 7th SPIE Symposium on Smart Structures and Materials-Electroactive Polymers and Devices (EAPAD) Conference</i> , March 6-8, 2000, Newport Beach, California, USA, pp. 51-64.
	D4	Kornbluh, R., R. Pelrine, R. Heydt, and Q. Pei, "Acoustic Actuators Based on the Field-Activated Deformation of Dielectric Elastomers," (2000)
	D5	Pelrine, R., R. Kornbluh, J. Joseph, and S. Chiba, "Electrostriction of Polymer Films for Microactuators," <i>Proc. IEEE Tenth Annual International Workshop on Micro Electro Mechanical Systems</i> , Nagoya, Japan, January 26-30, 1997, pp. 238-243.
	D6	Pelrine, R., J. Eckerle, and S. Chiba, "Review of Artificial Muscle Approaches," invited paper, in <i>Proc. Third International Symposium on Micro Machine and Human Science</i> , Nagoya, Japan, October 14-16, 1992
	D7	Pelrine, R., Roy Kornbluh, Jose Joseph, Qibing Pei, Seiki Chiba "Recent Progress in Artificial Muscle Micro Actuators," , SRI International, Tokyo, 1999 MITI/NEEDOIMNIC, 1999
Examiner	Date Considered	

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<b>Form 1449 (Modified)</b>  <b>Information Disclosure Statement By Applicant</b>  (Use Several Sheets if Necessary)	Atty Docket No. SRI1P026/US-4152-2	Application No.: 09/619,847
	Applicant: Pei <i>et al.</i> Filing Date July 20, 2000	Group 2743

**Other Documents**

Examiner Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
	E1	Pelrine, R., R. Kornbluh, and J. Eckerle, "Elastomeric Dielectric Polymer Film Sonic Actuator," US Provisional Patent Application No. 60/031,400, filed Feb. 7, 1997.
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	E4	Pelrine, R., R. Kornbluh, Q. Pei, and J. Joseph. "High-Speed Electrically Actuated Polymers and Methods of Use," US-4028-2P, U.S. Provisional Patent Application No. 60/144,556, filed 20 July 1999.
	E5	Anderson, R. 1986. "Mechanical stress in a dielectric solid from a uniform electric field," <i>Physical Review B</i> , 33(2), pp.1302-1307.
	E6	Baughman, R. H., L. W. Shacklette, and R. L. Elsenbaumer, E. J. Plichta, and C. Becht, "Micro electromechanical actuators based on conducting polymers," in <i>Molecular Electronics, Materials and Methods</i> , P. I. Lazarev (ed.), Kluwer Academic Publishers, pp. 267-289 (1991)
	E7	Baughman, R., L. Shacklette, R. Elsenbaumer, E. Plichta, and C. Becht "Conducting Polymer Electromechanical Actuators," <i>Conjugated Polymeric Materials: Opportunities in Electronics, Optoelectronics and Molecular Electronics</i> , eds. J.L. Bredas and R.R. Chance, Kluwer Academic Publishers, The Netherlands, pp. 559-582, 1990
	E8	Bharti, V., H. S. Xu, G. Shanthi, and Q. M. Zhang, "Polarization and Structural Properties of High Energy Electron Irradiated Poly(vinylidene fluoride-trifluoroethylene) Copolymer Films," to be published in <i>J. Appl. Phys.</i> (2000).
	E9	Bharti, V., X.-Z. Zhao, Q. M. Zhang, T. Romotowski, F. Tito, and R. Ting, "Ultrahigh Field Induced Strain And Polarization Response In Electron Irradiated Poly(Vinylidene Fluoride-Trifluoroethylene) Copolymer," <i>Mat. Res. Innovat.</i> Vol. 2, 57-63 (1998).
	E10	Bharti, V., Z.-Y. Cheng, S. Gross, T.-B. Xu, and Q. M. Zhang, "High electrostrictive strain under high mechanical stress in electron-irradiated poly(vinylidene fluoride-trifluoroethylene) copolymer," <i>Appl. Phys. Lett.</i> Vol. 75, 2653-2655 (October 25, 1999).
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Examiner Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
	F1	Bohon, K., and S. Krause, "An Electrorheological Fluid and Siloxane Based Electromechanical Actuator: Working Toward an Artificial Muscle," to be published in <i>J. Polymer Sci., Part B. Polymer Phys.</i> (2000)
	F2	Cheng, Z.-Y., T.-B. Xu, V. Bharti, S. Wang, and Q. M. Zhang, "Transverse Strain Responses In The Electrostrictive Poly(Vinylidene Fluoride-Trifluoroethylene) Copolymer," <i>Appl. Phys. Lett.</i> Vol 74, No. 13, pp. 1901-1903, March 29, 1999.
	F3	Chiarelli, P., A. Della Santa, D. DeRossi, and A. Mazzoldi. 1995. "Actuation Properties of Electrochemically Driven Polypyrrole Free-standing Films," <i>Journal of Intelligent Material Systems and Structures</i> , Vol. 6, pp. 32-37, January 1995
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	F5	Flynn, Anita M., L.S. Tavrow, S.F. Bart, R.A. Brooks, D.J. Ehrlich, K.R. Udayakumar, and L.E. Cross. 1992. "Piezoelectric Micromotors for Microrobots," <i>IEEE Journal of Microelectromechanical Systems</i> , Vol.1, No.1, pp. 44-51 (March 1992); also published as <i>MIT AI Laboratory Memo 1269</i> , Massachusetts Institute of Technology (February 1991).
	F6	Furukawa, T., and N. Seo., "Electrostriction as the Origin of Piezoelectricity in Ferroelectric Polymers," <i>Japanese J. Applied Physics</i> , Vol. 29, No. 4, pp. 675-680 (April 1990).
	F7	Kaneto, K., M. Kaneko, Y. Min, and A.G. MacDiarmid. 1995. "Artificial Muscle: Electromechanical Actuators Using Polyaniline Films," <i>Synthetic Metals</i> 71, pp. 2211-2212, 1995
	F8	Kondoh Y., and T. Ono. 1991. "Bimorph Type Actuators using Lead Zinc Niobate-based Ceramics," <i>Japanese Journal of Applied Physics</i> , Vol. 30, No. 9B, pp. 2260-2263, September 1991.
	F9	Lawless, W. and R. Arenz, "Miniature Solid-state Gas Compressor," <i>Rev. Sci Instrum.</i> , 58(8), pp.1487-1493, August 1987
	F10	Martin, J. and R. Anderson, 1999. "Electrostriction In Field-Structured Composites: Basis For A Fast Artificial Muscle?", <i>Journal of Chemical Physics</i> , Vol. 111, no. 9, pp.4273-4280, September 1, 1999
	F11	Ohara, K., M. Hennecke, and J. Fuhrmann, "Electrostriction of polymethylmethacrylates," <i>Colloid &amp; Polymer Sci.</i> Vol 280, 164-168 (1982).
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	Applicant: Pei <i>et al.</i> Filing Date July 20, 2000	RECEIVED MAR 01 2001 Technology Center 2600 Groves Center 2743

**Other Documents**

Examiner Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
	G1	Otero, T.F., J. Rodriguez, E. Angulo and C. Santamaria, "Artificial Muscles from Bilayer Structures," <i>Synthetic Metals</i> , Vol. 55-57, pp. 3713-3717 (1993).
	G2	Park, S.E., and T. Shrout., "Ultrahigh Strain and Piezoelectric Behavior in Relaxor Based Ferroelectric Single Crystals," <i>J Applied Physics</i> , Vol. 82, pp. 1804-1811, August 15, 1997
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	G4	Scheinbeim, J., B. Newman, Z. Ma, and J. Lee, "Electrostrictive Response of Elastomeric Polymers," <i>ACS Polymer Preprints</i> , 33(2), pp.385-386, 1992
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	G6	Shahinpoor, M., "Micro-electro-mechanics of Ionic Polymer Gels as Electrically Controllable Artificial Muscles," <i>J. Intelligent Material Systems and Structures</i> , Vol. 6, pp. 307-314, May 1995
	G7	Shkel, Y., and D. Klingenberg, "Material Parameters for Electrostriction," <i>J Applied Physics</i> , Vol. 80(8), pp. 4566-4572, October 15, 1996
	G8	Smela, E., O. Inganäs, and I. Lundström, "Controlled Folding of Micrometer-size Structures," <i>Science</i> , Vol. 268, pp. 1735-1738 (23 June 1995).
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	G10	Su, J., Q. M. Zhang, C. H. Kim, R. Y. Ting, and R. Capps, "Effects of Transitional Phenomena on the Electric Field induced Strain-electrostrictive Response of a Segmented Polyurethane Elastomer," pp. 1363-1370, January 20, 1997.
	G11	Tobushi, H., S. Hayashi, and S. Kojima, "Mechanical Properties of Shape Memory Polymer of Polyurethane Series," in <i>JSME International Journal</i> , Series I, Vol.35, No.3, 1992
	G12	Uchino, K. 1986. "Electrostrictive Actuators: Materials and Applications," <i>Ceramic Bulletin</i> , 65(4), pp. 647-652, 1986
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	Applicant: Pei <i>et al.</i> Filing Date July 20, 2000	Group 2743

**Other Documents**

Examiner Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
	H1	Wade, W. L., Jr., R. J. Mammone and M. Binder, "Increased Dielectric Breakdown Strengths Of Melt-Extruded Polyporpylene Films," <i>Polymers</i> , Vol. 34, No. 5, pp. 1093-4 (1993).
	H2	Zhang, Q., V. Bharti, and X. Zhao, "Giant Electrostriction and Relaxor Ferroelectric Behavior in Electron-irradiated Poly(vinylidene fluoride-trifluoroethylene) Copolymer," <i>Science</i> , Vol. 280, pp. 2101-2104 (26 June 1998).
	H3	Zhenyi, M., J.I. Scheinbeim, J.W. Lee, and B.A. Newman. 1994. "High Field Electrostrictive Response of Polymers," <i>Journal of Polymer Sciences, Part B-Polymer Physics</i> , Vol.32, pp. 2721-2731, 1994
	H4	Heydt, R., R. Kornbluh, R. Pelrine, and B. Mason, "Design and Performance of an Electrostrictive Polymer Film Acoustic Actuator", <i>Journal of Sound and Vibration</i> (1998)215(2), 297-311.
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	H6	Pelrine, R., R. Kornbluh, and J. Joseph, "Electrostriction of Polymer Dielectrics with Compliant Electrodes as a Means of Actuation," <i>Sensors and Actuators A: Physical</i> , Vol. 64, 1998, pp.77-85.
	H7	Pelrine, R., R. Kornbluh, and G. Kofod, "High Strain Actuator Materials Based on Dielectric Elastomers," submitted to <i>Advanced Materials</i> (May 2000).
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	H12	M. Greene and J. A. Willett, and Kornbluh, R., "Robotic systems," in ONR Report 32198-2, Ocean Engineering and Marine Systems 1997 Program (Dec. 1997)
	H13	Nguyen, T., J. A. Willett and Kornbluh, R., "Robotic systems," in ONR Ocean, Atmosphere, and Space Fiscal Year 1998 Annual Reports (Dec. 1998)
Examiner		Date Considered

Examiner: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



<b>Form 1449 (Modified)</b>  <b>Information Disclosure Statement By Applicant</b>  (Use Several Sheets if Necessary)	Atty Docket No. SRI1P026/US-4152-2 Applicant: Pei <i>et al.</i> Filing Date July 20, 2000	Application No.: 09/619,847  Group 2743
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**Other Documents**

Examiner Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
	11	Nguyen, T., Green, M., and Kornbluh, R., "Robotic Systems," in ONR Ocean, Atmosphere, and Space Fiscal Year 1999 Annual Reports (Dec. 1999)
	12	Pelrine, R., and J. Joseph, <i>FY 1992 Final Report on Artificial Muscle for Small Robots</i> , ITAD-3393-FR-93-063, SRI International, Menlo Park, California, March 1993
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	113	Yam, P., "Plastics Get Wired", <i>Scientific American</i> , Vol. 273, pp. 82-87, July 1995
Examiner		Date Considered

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**Form 1449 (Modified)****Information Disclosures  
Statement By Applicant**

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Atty Docket No.  
SRI1P026/US-4152-2  
Applicant:  
Pei *et al.*  
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09/619,847  
Group:  
2743**Other Documents**

Examiner Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
	J1	Kornbluh, R., Pelrine, R. Joseph, J., Pei, Q. and Chiba, S., "Ultra-High Strain Response of Elastomeric Polymer Dielectrics", Proc. Materials Res. Soc., Fall meeting, Boston, MA, pages 1-12, December 1999
	J2	Kornbluh, R., Pelrine, R., Eckerle, J., Joseph, J., "Electrostrictive Polymer Artificial Muscle Actuators", IEEE International Conference on Robotics and Automation, Leuven, Belgium, 1998
	J3	Ajluni, Cheryl, "Pressure Sensors Strive to Stay on Top, New Silicon Micromachining Techniques and Designs Promise Higher Performance", <i>Electronic Design - Advanced Technology Series</i> , October 3, 1994, pp. 67-74
	J4	Anderson, R. A., "Mechanical Stress in a Dielectric Solid From a Uniform Electric Field", <i>The American Physical Society</i> , 1986, pp. 1302-1307
	J5	Ashley, S., "Smart Skis and Other Adaptive Structures", <i>Mechanical Engineering</i> , November 1995, pp. 77-81
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	J7	Jacobsen, S., Price, R., Wood, J, Rytting, T., and Rafaelof, M., "A Design Overview of an Eccentric-Motion Electrostatic Microactuator (the Wobble Motor)", <i>Sensors and Actuators</i> , 20 (1989) pages 1-16
	J8	Pelrine <i>et al.</i> , "Electroactive Polymer Transducers and Actuators", U.S. Patent Application No. 09/620,025, filed July 20, 2000, 58 pages
	J9	Pelrine, R. and Kornbluh, "Electroactive Polymer Devices", U.S. Patent Application No. 09/619,846, filed July 20, 2000, 67 pages
	J10	Perline <i>et al.</i> , "Electroactive Polymer Generators", U.S. Patent Application No. 09/619,848, filed July 20, 2000, 69 pages
	J11	Perline <i>et al.</i> , "Electroactive Polymer Electrodes", U.S. Patent Application No. 09/619,843, filed July 20, 2000, 54 pages
	J12	Perline <i>et al.</i> , "Electroactive Polymer Fabrication", U.S. Patent Application No. 09/619,845, filed July 20, 2000, 55 pages
Examiner		Date Considered

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